Directional Subwoofers:
Once A Miracle, Now Easily Done

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MAPP Online Pro

The ability to predict the performance of a sound system is indispensable to system designers in every application. Meyer Sound combined rigorous scientific techniques and careful, high-resolution measurements with direct input from leading designers and years of experience to produce the MAPP Online Pro acoustical prediction program.

Based on a patented method, MAPP Online Pro is a powerful, cross-platform, Java-based application for accurately predicting the coverage pattern, frequency response, impulse response, and maximum SPL output of single or arrayed Meyer Sound loudspeakers. Residing on the user’s local computer, the Java client application facilitates configuring arrays of a wide variety of Meyer Sound products and, optionally, defining the environment in which they will operate, including air temperature, pressure and humidity, as well as the location and composition of surfaces. Most 2D CAD (.DXF) files can be imported directly for accurate venue definition.

“It’s a lifesaver when you don’t meet the FOH mixer until show day. You simply send each other MAPP files. Very nice, indeed!”

— Andri Gunnarsson, System Technician, Exton
# USW-1P Specifications

## Acoustical

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Frequency Range</td>
<td>32 Hz – 200 Hz</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>35 Hz – 180 Hz ±4 dB</td>
</tr>
<tr>
<td>Phase Response</td>
<td>45 Hz – 155 Hz ±30°</td>
</tr>
<tr>
<td>Maximum Peak SPL</td>
<td>135 dB</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>&gt;110</td>
</tr>
</tbody>
</table>

## Coverage

360° single unit; varies for multiple units, depending on number and configuration.

## Transducers

**Low Frequency**
- Two 15” cone drivers
- Nominal impedance: 4 Ω
- Voice coil size: 3”
- Power-handling capability: 400 W

## Audio Input

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Differential, electronically balanced</td>
</tr>
<tr>
<td>Maximum Common Mode Range</td>
<td>±15 V DC, clamped to earth for voltage transient protection</td>
</tr>
<tr>
<td>Connectors</td>
<td>Female XLR input with male XLR loop output or VEAM all-in-one (integrates AC, audio and network)</td>
</tr>
<tr>
<td>Input Impedance</td>
<td>10 kΩ differential between pins 2 &amp; 3</td>
</tr>
<tr>
<td>Wiring</td>
<td>Pin 1: Chassis/earth through 220 kΩ, 1000 pF, 15 V clamp network to provide virtual ground lift at audio frequencies</td>
</tr>
<tr>
<td></td>
<td>Pin 2: Signal +</td>
</tr>
<tr>
<td></td>
<td>Pin 3: Signal – (optional polarity reversal switch)</td>
</tr>
<tr>
<td>Case</td>
<td>Earth ground and chassis</td>
</tr>
<tr>
<td>DC Blocking</td>
<td>Differential DC blocking up to max common mode voltage &gt;50 dB, Typically 80 dB (50 Hz – 500 Hz)</td>
</tr>
<tr>
<td>CMRR</td>
<td>&gt;80 kHz, integral to signal processing</td>
</tr>
<tr>
<td>RF Filter</td>
<td>Common Mode: 425 kHz; Differential Mode: 142 kHz</td>
</tr>
<tr>
<td>TIM Filter</td>
<td>&lt;80 kHz, typical to signal processing</td>
</tr>
<tr>
<td>Nominal Input Sensitivity</td>
<td>0 dBV (1 V rms, 1.4 V pk) continuous is typically the onset of limiting for pink noise and music</td>
</tr>
<tr>
<td>Input Level</td>
<td>Audio source must be capable of producing a minimum of +20 dBV (10 V rms, 14 V pk) into 600 Ω in order to produce maximum peak SPL over the operating bandwidth of the loudspeaker</td>
</tr>
</tbody>
</table>
**Amplifier**

<table>
<thead>
<tr>
<th>Type</th>
<th>Two-channel complementary MOSFET output stages (class AB/bridged)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power</td>
<td>550 W total</td>
</tr>
<tr>
<td>THD, IM, TIM</td>
<td>&lt;.02 %</td>
</tr>
<tr>
<td>Load Capacity</td>
<td>4 Ω both channels</td>
</tr>
<tr>
<td>Cooling</td>
<td>Convection; 24 V DC output for optional external fan</td>
</tr>
</tbody>
</table>

**AC Power**

<table>
<thead>
<tr>
<th>Connector</th>
<th>PowerCon or VEAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Voltage Selection</td>
<td>Automatic, continuous range from 90 V AC – 265 V AC</td>
</tr>
<tr>
<td>Safety Agency Rated Operating Range</td>
<td>100 V AC – 240 V AC; 50/60 Hz</td>
</tr>
<tr>
<td>Turn-on and Turn-off Points</td>
<td>90 V AC on, no turn-off, only fuse protected above 265 V AC⁷</td>
</tr>
<tr>
<td><strong>Current Draw:</strong></td>
<td></td>
</tr>
<tr>
<td>Idle Current</td>
<td>.025 A rms (115 V AC); 0.13 A rms (230 V AC); 0.3 A rms (100 V AC)</td>
</tr>
<tr>
<td>Max Long-Term Continuous Current (&gt;10 sec)</td>
<td>2.8 A rms (115 V AC); 1.4 A rms (230 V AC); 3.2 A rms (100 V AC)</td>
</tr>
<tr>
<td>Burst Current (&lt;1 sec)</td>
<td>3.2 A rms (115 V AC); 1.6 A rms (230 V AC); 3.7 A rms (100 V AC)</td>
</tr>
<tr>
<td>Ultimate Short-Term Peak Current Draw</td>
<td>5.0 A pk (115 V AC); 2.5 A pk (230 V AC); 5.8 A pk (100 V AC)</td>
</tr>
<tr>
<td>Inrush Current</td>
<td>&lt;9 A pk (115 V AC and 230 V AC)</td>
</tr>
</tbody>
</table>

Dimensions:

- Width: 31.00 [787mm]
- Height: 21.56 [548mm]
- Depth: 12.72 [323mm]
- 9.77 [248mm]
- 21.30 [541mm]
- 19.25 [489mm]
- 11.88 [302mm]
- 11.00 [279mm]
- 14.00 [356mm]
- 15.50 [394mm]
- 2.63 [67mm]
- ±.12 Typical
Non-Directional
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz
Sound Field

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 31.5 Hz
Start Frequency = 23.4 Hz
Stop Frequency = 45.4 Hz

1 USW 31.5Hz
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

2 USW 0ms 63Hz
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1/3 octave
Center Frequency = 125 Hz
Start Frequency = 112.8 Hz
Stop Frequency = 140.6 Hz

2 USW 125Hz
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

3 USW 63Hz
Sound Field

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

4 USW 63Hz
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

8 USW 63Hz
2 USW side by side 63Hz
2 USW in Free Space

2 USW Ground Stacked

Air Attenuation On
Temperature = 68.0°F
Cardioid
Speed of Sound:

1125 feet per second
@ Sea Level
@68 degrees F
“Dry Air”
= 1.125’/ms
2 Cardioid USW
Bottom box polarity reversed, delayed relative to top box
Cardioid 63Hz 1ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

Cardioid 63Hz 3ms
Cardioid 63 Hz 4ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

Cardioid 63 Hz 5ms
Sound Field

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1/3 octave
Center Frequency = 125 Hz
Start Frequency = 112.8 Hz
Stop Frequency = 140.6 Hz

Cardioid 125Hz 5ms
Cardioid 63Hz
Free space
3ms

Ground stacked
3ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1/3 octave
Center Frequency = 125 Hz
Start Frequency = 112.8 Hz
Stop Frequency = 140.6 Hz

Cardioid 125Hz 5ms
End-Fire
End Fire Detail

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz
Sound Field

- Air Attenuation On
- Temperature = 68.0°F
- Pressure = 1,013.25 mb
- Relative Humidity = 50.0%

- Relative Bandwidth = 1 octave
- Center Frequency = 63 Hz
- Start Frequency = 45.4 Hz
- Stop Frequency = 89.4 Hz

2 USW 5’ spacing 0ms
End Fire 63Hz measured 5.63ms
EF 125Hz 1ms

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1/3 octave
Center Frequency = 125 Hz
Start Frequency = 112.8 Hz
Stop Frequency = 140.6 Hz
End Fire 63Hz 2ms

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz
EF 63Hz 4ms

Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1/3 octave
Center Frequency = 63 Hz
Start Frequency = 57.1 Hz
Stop Frequency = 71.8 Hz

EF 63Hz 5ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

EF 63Hz 6ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1.01325 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

3 EF 63Hz 2, 4ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

3 EF 63Hz 4, 8ms
Air Attenuation On
Temperature = 68.0°F
Pressure = 1,013.25 mb
Relative Humidity = 50.0%

Relative Bandwidth = 1 octave
Center Frequency = 63 Hz
Start Frequency = 45.4 Hz
Stop Frequency = 89.4 Hz

3 EF 63Hz 5, 10ms
Other Directional Arrays
How it works
Meyer Sound TM Array Gives Metallica Even Bass Coverage on In-the-Round Arena Tour
Meyer Sound TM Array Gives Metallica Even Bass Coverage on In-the-Round Arena Tour